

TECHNICAL NOTES

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TECHNICAL NOTE
PLANT MATERIALS NO. 20
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"NEW COOL SEASON ANNUAL LEGUME FOR USE IN CONSERVATION TILLAGE"

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Introduction

Using legumes in crop rotations to enhance soil fertility, crop production and to reduce soil erosion is among the oldest of agricultural management practices.

Conservation tillage cropping systems have the greatest potential for economically controlling sheet and rill erosion on cropland in the states served by the Americus, Georgia Plant Materials Center. There has been a need for well adapted annual cool season legumes that are compatible with conservation tillage systems. Legumes as a cover crop could potentially reduce erosion, fix nitrogen, and reduce moisture losses from evaporation.

SCS and University of Georgia specialists have identified and released 'Americus' hairy vetch as a late maturing annual legume with excellent dry matter production and nitrogen accumulation. This new annual legume has potential for use as a winter cover crop in conservation tillage systems.

This plant was originally designated PI-383803 when it was evaluated with 1,000 other foreign and naturalized legume accessions at the Soil Conservation Service, Plant Materials Center in Americus, Georgia. It was later evaluated by SCS and University of Georgia personnel in several experimental field

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tests. These tests showed that 'Americus' has a consistent and often significant trend for greater dry matter production and N accumulations than other commercial hairy vetch tested.

This adapted legume provides a source of later maturing hairy vetch consistent in quality and performance. In the upper Southern Coastal Plain it matures seed from early-late June.

Area of Adaptation

'Americus' is best adapted to well drained soils of the Southern Piedmont and Southern Coastal Plain soil provinces of the Southeastern United States. Field observations indicate that 'Americus' can grow west to East Texas, north to Missouri and Kentucky and south to 29th north latitude.

Establishment

'Americus' can be broadcast or drilled. For maximum cool season coverage, 30 pounds of inoculated seed per acre is recommended. Plant 'Americus' in the fall, it is usually planted around October 15 at Americus, Georgia (upper Southern Coastal Plain). Planting dates for the Griffin, Georgia area (Southern Piedmont) are Oct 1 - Nov 1. Planting dates for the Tifton, Georgia area (lower Southern Coastal Plain) are Oct 15 - Nov 15. Prior to planting, apply lime to raise pH to 6.0. Apply fertilizer as indicated by recent soil test results. Planting depth should be from 1/2" - 1". Establishment in test and increase plots did not require use of herbicide to enhance vetch stand.

Management

When it is time to kill the cover crop for conservation tillage planting, experience at Americus indicates that use of a systemic herbicide produces better results than a contact herbicide. Approximately two weeks after spraying, the cover crop should be dried sufficiently for proper summer crop planting. A planting at Plains, Georgia indicates that corn following hairy vetch can be susceptible to southern corn root worm infestation which can reduce corn stand. Insecticide can be applied to eliminate this possible infestation. No stand reduction was noticed when grain sorghum followed hairy vetch.

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Commercial Seed Production

'Americus' can be harvested by direct combining. In Americus, Georgia this is usually done from early - late June. Normal yields are approximately 400 pounds of seed per acre. At Americus the following combine settings were utilized on a F-2 Gleaner: Concave setting 1/2-5/8", cylinder speed less than or equal to 600, fan setting of 5, run in second gear at full throttle. Hairy vetch is usually infested with vetch weevil during bloom. This infestation can be controlled by treating with insecticide at 75% bloom and again two weeks later.

Availability

The Soil Conservation Service, Americus Plant Materials Center (PMC), Americus, Georgia is responsible for maintaining breeder seed. Limited quantities of seed will be available to commercial growers through the Georgia Crop Improvement Association. For further information, please contact Donald Surrency, Plant Materials Specialist at the SCS State Office, Federal Building, Box 13, 355 East Hancock Avenue, Athens, Georgia 30601. Telephone Number (706) 546-2114.

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Natural Resources Conservation Service

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